

SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY

1234 Market Street, Philadelphia, Pennsylvania 19107

SCOPE OF WORK TO SUPPLY AND INSTALL OVERHEAD RAPID ROLL-UP DOOR

1. One (1) overhead rapid roll-up door is to be installed in the entry opening of the existing bus washer.
2. Provide and install industrial type, heavy-duty rapid roll-up coiling overhead door, including all required structural modifications and electrical connections.
3. New door is to be a fabric type with a full width clear vision panel. Color of door to be orange, or approved equal by Project Manager.

4. Approximate size of door

12'-11" High x 12'-0" Wide

5. Perform a detailed inspection of the existing Architectural, Structural, Mechanical and Electrical work at the locations relative to the door areas.
6. Submit to SEPTA a complete set of Shop Drawings for approval.
7. See attached Specification F-M-05-21 for complete requirements for Rapid Roll-up Coiling Overhead Door replacement.

Note: This contract does not pertain to Steel Overhead Coil-up Doors, Section 08331.

8. The Supplier shall provide SEPTA Operations and Maintenance personnel with a minimum of two (2) hours of training (excluding travel time) on the operation and maintenance of the equipment supplied.
9. Provide Albany Door Systems model 670 rapid roll-up door, or approved equal by Project Manager.

SPECIFICATION NO.: AHC-FKFDBWD

DATE: May 18, 2012

WORK ORDER: N/A

REVISION: N/A

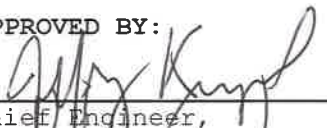
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SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY
1234 MARKET STREET, PHILADELPHIA, PENNSYLVANIA 19107

SPECIFICATION

SPECIFICATION FOR STEEL AND RAPID ROLL-UP COILING OVERHEAD DOOR REPLACEMENT PROJECT

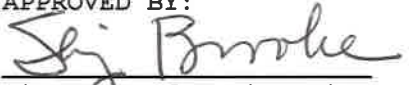
APPROVED BY:


Chief Engineer,
Infrastructure Bridges and
Buildings Department

APPROVED BY:


Assistant Chief Engineer,
Infrastructure Bridges and
Buildings Department

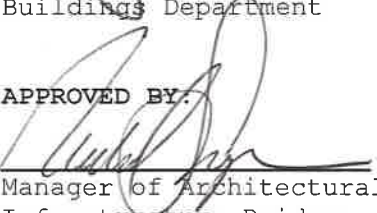
APPROVED BY:


Director of Engineering,
Infrastructure Bridges and
Buildings Department

APPROVED BY:


System Safety

APPROVED BY:


Manager of Architectural
Infrastructure Bridges and
Buildings Department

ORIGINATOR:


Infrastructure Bridges and
Buildings Department

SPECIFICATION NO.: F-M - 05- 21

DATE: 6/7/2005

File: Door Replacement Program/Cover Sheet for O/H Door Spec.

SPECIFICATION**STEEL AND RAPID ROLL-UP COILING
OVERHEAD DOOR REPLACEMENT PROJECT****SECTION 01010****SUMMARY OF WORK****1 PART 0 GENERAL****1.1 SECTION INCLUDES**

- A. Contract Description
- B. Site Access
- C. Owner Occupancy
- D. Contractor Responsibility
- E. Contractor's Duties
- F. Construction Constraints
- G. Existing Conditions and Contractor Responsibility
- H. Project Coordination
- I. Referenced Standards
- J. Available Information
- K. Temporary Barriers
- L. Temporary Signage

1.2 CONTRACT DESCRIPTION

- A. **Provide and install Industrial type, heavy duty, Steel and Rapid Roll-up Coiling Overhead Doors, including all required structural modifications and electrical connections.**
- B. **Install 4 - 6"dia x 84" Bollards on interior and exterior of all new door openings.**

1.3 Site Access

- A. The contractor will have access to the site during the hours of 8:00 am and 4:00 pm.

- B. Utility Outages and Shutdown: Coordinate electrical connections with the owner.

1.4 OWNER OCCUPANCY

- A. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.
- B. Schedule the Work to accommodate this requirement.
- C. Consider the safety of the work, and that of people and property on and adjacent to work site, when determining amount, location, movement, and use of materials and equipment on work site.
- D. Do not load the work, or access paths to the work, with equipment and products which would endanger integrity of the work or existing structures.
- E. Security of stored materials will be the Contractor's responsibility. Secure additional storage areas needed for construction operations at no additional expense to the Authority and absolve the Authority from any and all responsibility in connection with the use of such property.
- F. **The owner must have complete occupancy of the site.**

1.5 CONTRACTOR RESPONSIBILITY

- A. Furnish all materials, tools, equipment, supervision and transportation, and perform all labor and services necessary to furnish, deliver, construct, install, connect, interconnect and test, as required, to complete all work described in these Specifications.
- B. **Perform a detailed inspection of all existing architectural, structural, mechanical, and electrical work at each "location".**
- C. **Document all existing architectural, structural, mechanical, and electrical work at each "location".**
- D. **Submit to SEPTA, for review, all documentation of existing work. Documentation shall be interior and exterior 1/4" scale, elevations to 1/4" scale, and sectional view @ 1/2" scale.**
- E. **Submit to SEPTA, for review, Shop Drawings of each door location. Shop drawings shall show the extent of existing work to be removed and the extent of new work to be installed.**
- F. **Submit to SEPTA, for review, all structural calculations used during the design. Calculations shall be verified and sealed by a Professional Engineer licensed in Pennsylvania.**

1.6 CONTRACTOR DUTIES

- A. Perform work in accordance with those codes, ordinances, rules, regulations, orders, and other legal requirements of governmental bodies and public agencies, including the Authority, which bear on performance of the work.
- B. Perform work as necessary for the proper execution and completion of the Work and as applicable at time of receipt of bids. Secure and pay for:
 - 1. Permits.
 - 2. Governmental Fees.
 - 3. Licenses.
- C. Give written notices necessary for, and incidental to, the due and lawful prosecution of the Work.
- D. Notify the Project Manager at least three (3) days in advance of the date the entire work will be substantially complete at each Location and ready for inspection.
- E. Notify the Project Manager at least ten (10) days in advance of the date the entire work will be complete at each Location and ready for final inspection.
- F. Make arrangements for legally disposing of waste and excess materials off the work site and pay all costs thereof. Demolition waste will be removed periodically as approved by the Project Manager. No waste will be permitted to be stored inside or outside the buildings.
 - 1. Prior to disposing of materials outside the work site, obtain written permission from the owner on whose property the disposal will be made. File with the Project Manager said permit, or a certified copy thereof, together with a written release from the property owner absolving the Authority from any and all responsibility in the connection with the disposal of material on said property.
- G. Until acceptance of the work, the Contractor shall have the charge and care thereof and shall take every reasonable precaution against injury or damage to any part thereof by the action of the elements, theft, vandalism, or from any other cause, whether arising from the execution or from the non-execution of the work. **The Contractor shall rebuild, repair, restore, and make good, to the satisfaction of the Project Manager, all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance of that phased area and shall bear the expense thereof at no cost to the Owner with reference to any part of the work.**
- H. The Contractor shall take reasonable steps to minimize the spread of dust and dirt to non-work areas. Should a build-up occur, the Contractor is responsible for cleaning up areas which could present a hazard to SEPTA personnel and/or passengers or as directed by the Project Manager.

1.7 CONSTRUCTION CONSTRAINTS

- A. **The Authority shall occupy parts of the site and the operation shall continue during the entire period of construction.** Do not remove any existing construction, utility service or facility from service which would affect the on-going operation of the Authority without the specific permission of the Project Manager. Cooperate fully with the Authority or its representative during construction operations to minimize conflicts and to facilitate the Authority's continued usage. The Contractor's employees shall remain in Contractor authorized work areas and in direct communication with the Authority's representative and shall not enter into other areas unless authorized to do so. The Contractor will not allow employees to interfere with operations.
- B. The Contractor is advised to schedule material and equipment deliveries to coincide with their need on the job.
- C. There may be limited parking area on the Owner's property for the Contractor's work force. Specific locations will be approved by the Project Manager.

1.8 EXISTING CONDITIONS AND CONTRACTOR RESPONSIBILITY

- A. The Contractor is responsible for the fit and function of all new construction. To this end, the Contractor accepts the responsibility of visually and physically verifying, at no additional cost to the Authority, all existing conditions presented in the Specifications. Visual verification shall be performed prior to submitting a bid, and physical verifications shall be reported to the Project Manager. Physical verification before submitting a bid shall be at no cost to the Authority, but must be arranged with the Project Manager.

1.9 PROJECT COORDINATION

- A. The work of this Contract includes coordination of the entire work of the project.

1.10 REFERENCED STANDARDS

- A. Except where a particular issue is indicated as a referenced standard within the technical Specifications, provide materials, equipment, workmanship and design work conforming to the latest edition, revision, supplement and amendment thereto in effect on the effective date of Bid Opening.

1.11 AVAILABLE INFORMATION

- A. The Authority will furnish free of charges to the Contractor five (5) complete sets of the Contract Specifications.

1.12 TEMPORARY BARRIERS

- A. During construction, the Contractor shall maintain temporary barriers during construction.

2 PART 1 PRODUCTS

Not Used

3 PART 2 EXECUTION

Not Used

END OF SECTION

SECTION 01039**COORDINATION AND MEETINGS****1 PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Coordination.
- B. Preconstruction Meeting.
- C. Site Mobilization Meeting.
- D. Examination.
- E. Preparation
- F. Cutting and Patching.

1.2 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various sections of the Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirements of the work. Coordinate work of which could interfere with such service.
- C. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion.
- D. After Substantial Completion, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Owner will schedule a meeting after Notice of Award.
- B. Attendance Required: Owner, Contractor's Safety Coordinator, Contractor's Scheduling Coordinator and Contractor's Project Manager.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of products and progress schedule.

5. Designation of personnel representing the parties in Contract, and the Project Manager.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
7. Scheduling.

1.4 SITE MOBILIZATION MEETING FOR EACH LOCATION

- A. Owner shall schedule a meeting at the Project site prior to beginning construction.
- B. Attendance Required: Owner and Contractor's Superintendent
- C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Owner, participants, and those affected by decisions made.

2 PART 2 PRODUCTS

Not Used

3 PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual Specification sections.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply any required or recommended substrate primer, sealer, or conditioner prior to applying any new material.

3.3 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements which affects:
 1. Structural integrity of element.
 2. Efficiency, maintenance, or safety of element.
 3. Work of Owner or separate Contractor.

- C. Cut masonry and concrete materials using masonry saw or core drill.
- D. Restore Work with new Products in accordance with requirements of Contract Documents.
- E. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- F. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- G. Identify any hazardous substance or condition exposed during the Work to the Project Manager for decision or remedy.
- H. **Take special care to protect, and repair if damaged, all existing surfaces, objects and finishes not included in the project**

END OF SECTION

SECTION 01060**REGULATORY REQUIREMENTS AND SAFETY****PART 1 - GENERAL****1.01 DESCRIPTION**

- A. This Section specifies the regulatory and safety requirements for prosecution of the Work and supplements the requirements specified in the Agreement. The Contractor is required to assure that all employees, Sub-contractors, and suppliers/vendors, while on the Work site and/or in the conduct of the Contract, comply with the provisions of this Section.

The Contractor shall take every precaution necessary to assure the safe access and egress of all SEPTA patrons and employees.

1.02 RELATED WORK

- A. Section 01400 Quality Requirements
Section 01500 Construction Facilities and Temporary Controls

1.03 QUALITY ASSURANCE

- A. The Contractor shall daily monitor and document the compliance and performance of the requirements set forth in this Section consistent with appropriate SEPTA Work rules and Local, Commonwealth, and Federal rules and regulations. The Contractor shall furnish a copy of the Contractor's employee safety program to the Project Manager. This safety plan shall document the Contractor's compliance with all of the above-referenced codes and be submitted within 30 days from receipt of the Notice to Proceed.
- B. The Contractor shall provide a qualified safety officer who shall be responsible for all safety-related activities until the completion of the Work. The safety officer shall report all on-the-job injuries at once to the Project Manager and submit all paperwork pertaining to such injuries, as required.
- C. The Contractor's Superintendent or Safety Officer shall hold (tool box) safety meetings with all of the Contractors personnel as directed by SEPTA but not less than once a week. Subjects, time, and location may be set at the Contractor's convenience. SEPTA requires at least three (3) days prior notice of location and time of each meeting, and an agenda shall be submitted to the Project Manager. Minutes of each Safety Meeting shall be provided to the Project Manager at the regularly-scheduled project coordination meeting.

1.04 PROTECTION OF THE PUBLIC

The Contractor shall take all necessary precautions to prevent injury to the public and damage to property of others. All Work shall be performed in accordance with rules, regulations, procedures, and safety practices of SEPTA, the Commonwealth of Pennsylvania, OSHA, and all other governmental agencies having jurisdiction over the Work.

1.05 EMERGENCY PROCEDURES

- A. Copies of all guidelines for emergency procedures shall be written and posted prior to the initiation of actual construction. Posting shall include directions to and from the nearest hospital. These guidelines shall be included in the Contractor's written Safety Program and shall be submitted to SEPTA.

1.06 PROTECTION OF SEPTA FACILITIES

- A. The Contractor shall be cognizant of and bound by SEPTA's safety rules and regulations specified herein and conduct operations in strict accordance with same.
- B. SEPTA shall be the sole judge of protection necessary for the safe operation of its facilities.

1.07 STORAGE AND HANDLING OF MATERIALS

- A. The Contractor shall store equipment and materials at the job site in accordance with instructions of the Project Manager and in conformance with applicable regulatory provisions. The Contractor shall not store unnecessary items at the job site. Flammable materials shall not be stored at the facility.
- B. The Contractor shall take care to prevent any structure from being loaded with a weight which will endanger its security or the safety of persons. The Contractor shall enforce the instructions of the Project Manager regarding such items as signs, fires, and smoking.
- C. Where it is permitted to store materials on streets, the Contractor shall place such materials so as to cause minimum obstruction to traffic and the public. The Contractor shall not place materials within 15 feet of fire hydrants nor obstruct drainage gutters or inlets. The Contractor shall obtain and pay for all required permits relative to storage of materials.

1.11 ENVIRONMENTAL PROTECTION

- A. Environmental protection considerations consist of, but are not limited to, the following factors:
 - 1. Natural resources.
 - 2. Solid waste disposal.

3. Noise.
4. Control of toxic substances, hazardous materials, and radiation.
5. The presence of chemical, physical, and biological elements and agents that adversely affect and alter ecological balances.
6. Degradation of the aesthetic use of the environment.

B. General Requirements:

1. The Contractor shall provide and maintain environmental protection as defined herein.
2. The Contractor's operation shall comply with all applicable Federal, Commonwealth and Local laws, ordinances, and regulations pertaining to environmental protection.
3. Compliance of Sub-contractors with the provisions of this and various other sections of these Specifications shall be the responsibility of the Contractor.
4. The Contractor shall not use equipment from which factory-installed anti-pollution and noise control devices have been removed or rendered ineffective through lack of proper maintenance.
5. The Contractor shall provide adequate pollution controls for painting and surface preparation in compliance with the State Department of Environmental Resources Regulations.

C. Protection of Natural Resources:

1. General:

It is intended that the natural resources within the project boundaries and outside the limits of permanent Work performed shall be preserved in their existing condition or be restored to an equivalent of the existing condition, as approved by the Project Manager upon completion of the Work. The Contractor shall confine its on-site construction activities to areas defined by the Contract Specifications or directed by the Project Manager.

2. Protection of Project Site and Existing Roadways:

Debris or rubbish of any kind shall not be dumped onto the site or roadways. This shall include paint splatters and spillage during painting operations. Care shall be taken to prevent damage and injury to personnel, vessels, and vehicles using roadways, or areas accessible to pedestrians. Devices shall be provided and maintained by the Contractor as required to prevent such occurrences. Material or items falling onto roadways shall be promptly removed at the Contractor's expense.

E. Toxic Substances:

1. The Contractor shall comply with the Toxic Substance Control Act, P.L. 94-469 (TSCA).
 - a. No toxic chemical substance, mixture, equipment, container, sealant, coating, or dust-control agent shall be used except in accordance with all provisions of the TSCA as interpreted by the rules and regulations of 40 CFR 761.
 - b. Any toxic chemical substance, mixture, equipment, container, sealant, coating, or dust-control agent found stored within the project area shall be immediately reported to the Project Manager in writing and Work shall be stopped in the area. The Project Manager shall make arrangements for the removal of the toxic materials, after which the Contractor may continue work in the area.

F. Dust Control:

1. Dust shall be kept down at all times, including non-Working hours, weekends, and holidays. Only wet cutting of concrete block, concrete, and asphalt shall be permitted.
2. The Contractor shall comply with all applicable provisions of the National Emission Standards for Asbestos (40 CFR 61 Subpart B).
3. The Contractor shall inspect all vehicles for dirt prior to their leaving the construction site. Dirt, soil, and rubble likely to be dislodged during transit shall be removed from the trucks and other vehicles prior to leaving the site.
4. The Contractor shall ensure that equipment transporting material to and from the site that may become airborne is covered.
5. The Contractor shall not cause or permit fugitive particulate matter to be emitted into the outdoor atmosphere from any source such that emissions are visible beyond the project property line.

1.12 PROTECTION OF EXISTING WATER AND SEWER LINES

When the equipment axle load exceeds 15 tons, the Contractor shall provide and work from timber mats placed over existing underground water lines and sewer lines.

1.13 NOISE CONTROL

As specified by the controlling jurisdiction.

NOTE: In absence of specific jurisdictional instructions regarding noise control, OSHA 29CFR §1910 will apply.

SECTION 2

Not Used

SECTION 3

Not Used

END OF SECTION

SECTION 01300**SUBMITTALS****1 PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Submittal Procedures.
- B. Construction Progress Schedules.
- C. Proposed Products List.
- D. Product Data.
- E. Samples.
- F. Manufacturer's Installation Instructions.
- G. Manufacturers' Certificates.

1.2 RELATED SECTIONS

- A. Section 01400 - Quality Control: Manufacturers' field services and reports.
- B. Section 01700 - Contract Closeout: Contract warranties, bonds, manufacturer's certificates, and closeout submittals.

1.3 SUBMITTAL PROCEDURES

- A. All submittals shall be submitted at one time, 14 days prior to ordering material.
- B. Transmit each submittal per Specification.
- C. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- D. Identify Project, Contractor, Sub-contractor or Supplier; and Specification section number, as appropriate.
- E. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- F. Schedule submittals to expedite the Project, and deliver to Owner's address as directed. Coordinate submission of related items.

- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- I. Provide space for Contractor and Owner review stamps.
- J. When resubmitting, identify all revisions made since previous submission.
- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with provisions.
- L. Submittals not requested shall not be recognized or processed.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedule in duplicate within 10 days after date established in award of the Contract. The schedule will include but not be limited to:
 - 1. Mobilization
 - 2. Submittal
 - 3. Signage
 - 4. Phasing
 - 5. Demolition
 - 6. Clean-Up
 - 7. De-Mobilization
- B. Revise and resubmit as required.
- C. Submit revised schedules with each substantial completion of the project if the estimated schedule has changed, identifying changes since previous version.
- D. Submit a horizontal bar chart with separate line for each major section of Work or operation section of Work, identifying first work day of each week.
- E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- F. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and required by allowances.

1.5 PROPOSED PRODUCTS LIST

- A. Within 10 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.6 PRODUCT DATA

- A. Submit the number of copies which the Contractor requires, plus two copies which will be retained by the Owner.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.
- C. After review, distribute in accordance with the Submittal Procedures article above and provide copies for record Documents described in Section 01700 - CONTRACT CLOSEOUT.

1.7 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices as requested by the Project Manager. Coordinate sample submittals for interfacing work.
- B. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Owner selection.
- C. Include identification on each sample, with full Product information.
- D. Submit the number of samples specified in individual Specification sections; one of which will be retained by the Owner.
- E. Reviewed samples which may be used in the Work are indicated in individual Specification sections.

1.8 MOCKUP/SAMPLE

Not Used

1.9 MANUFACTURER INSTALLATION INSTRUCTIONS

- A. When specified in individual Specification sections, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, to the owner in quantities specified for Product Data.

- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.10 MANUFACTURER CERTIFICATES / WARRANTIES

- A. When specified in individual Specification sections, submit certification by manufacturer to the owner, in quantities specified for Product Data.
- B. Indicate whether material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Owner.

2 PART 2 PRODUCTS

Not Used

3 PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01400**QUALITY CONTROL****1 PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Quality assurance - control of installation.
- B. Tolerances
- C. References.
- D. Manufacturers' Field Services and Reports.

1.2 RELATED SECTIONS

- A. Section 01300 - Submittals: Submission of manufacturers' instructions and certificates.

1.3 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over Suppliers, Manufacturers, Products, Services, Site conditions, and Workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from owner before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure Products in place by methods designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.4 TOLERANCES

- A. Monitor tolerance control of installed Products to produce acceptable Work. Do not permit tolerances to accumulate.

- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from the owner before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.5 REFERENCES

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date for receiving bids, except where a specific date is established by code.
- C. The contractual relationship, duties, and responsibilities of the parties in Contract nor those of the Owner shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.6 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. At the direction of the Project Manager, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, and overall integrity of installed system as applicable, and to initiate instructions when necessary.
- B. Observer subject to approval of Owner.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Submit report prior to Substantial Completion to the owner for information.

2 PART 2 PRODUCTS

Not Used

3 PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01500**CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS****1 PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, water, and sanitary facilities.
- B. Temporary Controls: Barriers, enclosures and fencing, protection of the Work, and water control.
- C. Construction Facilities: Parking, progress cleaning, and project signage.

1.2 RELATED SECTIONS

- A. Section 01700 - Contract Closeout: Final cleaning.

1.3 TEMPORARY ELECTRICITY

- A. Cost: By Owner; connect to Owner's existing power service. Do not disrupt Owner's need for continuous service. Owner will pay cost of energy used. Exercise measures to conserve energy.
- B. Provide temporary electric feeder from electrical service at location as directed. Do not disrupt Owner's need for continuous service.
- C. Complement existing power service capacity and characteristics as required.
- D. Provide main service disconnect and overcurrent protection at convenient location.
- E. Permanent convenience receptacles may be utilized during construction.

1.4 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain additional lighting for construction operations if required.
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- C. Maintain lighting and provide routine repairs.
- D. Permanent building lighting may be utilized during construction.

1.5 TELEPHONE SERVICE

- A. Provide, maintain and pay for telephone service to project site (cellular telephone connection is acceptable) for use by Contractor and owner's representatives.

1.6 TEMPORARY SANITARY FACILITIES

- A. The Contractor will have access to existing sanitary facilities at all Locations. The Contractor will insure that the facilities are in a clean condition at the end of every work shift. Under no circumstances use the facilities for rinsing tools or any other activity which could damage fixtures or supply and/or sanitary lines.

1.7 BARRIERS

- A. Protect stored materials site and structures from damage. Protect equipment, operations, passengers and SEPTA personnel from damage or dangerous conditions.

1.8 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual Specification sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.
- C. Prohibit traffic or storage upon newly tiled surfaces. If traffic or activity is necessary, obtain recommendations for protection from manufacturer.
- D. Protect tiled non-work areas from damage during delivery and construction, particularly at existing expansion joints. Obtain permission from owner's representative prior to setting up delivery paths.

1.9 SECURITY

- A. Coordinate with Owner's security program. Under no circumstances permit access to controlled areas by leaving doors open and unattended.

1.10 PARKING

- A. Parking arrangements will be determined on a Location by Location basis.

1.11 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Collect and remove waste materials, debris, and rubbish from site periodically on a daily basis or more frequently if required and dispose off-site. SEPTA has no location to locate a dumpster but the Contractor may be able to obtain City permission to locate a dumpster on an adjacent street location.

2 PART 2 PRODUCTS

Not Used

3 PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01600**MATERIAL AND EQUIPMENT****1 PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.2 PRODUCTS

- A. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- B. Provide interchangeable components of the same manufacturer, for components being replaced or as approved by owner's representative.

1.3 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.
- C. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.4 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturers' instructions, with seals and labels intact and legible.
- B. Store sensitive Products in weather tight, climate controlled enclosures.
- C. For exterior storage of fabricated Products, place on sloped supports, above ground.
- D. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation or potential degradation of Product.
- E. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.

- F. Arrange storage of Products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.6 SUBSTITUTIONS

- A. The owner will consider requests for Substitutions only within 10 days after date established in Notice to Proceed.
- B. Substitutions may be considered at a later date if a Product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Will provide the same warranty for the Substitution as for the specified Product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse the Owner for redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on proposer.
 - 3. The owner will notify Contractor in writing of decision to accept or reject request.

2 PART 2 PRODUCTS

Not Used

3 PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01700**CONTRACT CLOSEOUT****1 PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Phasing closeout.
- B. Closeout procedures.
- C. Final cleaning.
- D. Adjusting.
- E. Project record Documents.
- F. Warranties.
- G. Spare parts and maintenance materials.

1.2 RELATED SECTIONS

- A. Section 01500 - Construction Facilities and Temporary Controls:

1.3 PHASING CLOSEOUT

- A. Each phased area will be closed out at the completion of work for that area. Steps to be taken include
 - 1. Punch list
 - 2. Correction of defects
 - 3. Clean-Up
 - 4. Barrier removal
- B. These steps must be accomplished in a timely manner so that the areas go back into service no later than the end of the phase covering that section of work.

1.4 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Project Manager's review.
- B. Provide submittals to the Owner that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.5 FINAL CLEANING

- A. For each phased area, execute final cleaning prior to final project assessment for that section.
- B. Clean site; sweep paved areas, under direct supervision of owner's representative.
- C. Remove waste and surplus materials, rubbish, and construction facilities from the site.
- D. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances.
- E. Clean equipment and fixtures to a grease & dirt free condition with cleaning materials appropriate to the surface and material being cleaned.

1.6 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation. Test emergency overrides and reversing mechanisms in the presence of the Project Manager. Adjust mechanisms to reverse under specified loading.

1.7 PROJECT RECORD DOCUMENTS

- A. Maintain on site, one set of the following record Documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record Documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.
 - 2. Details not on original Contract Drawings.

- G. Submit documents to owner with claim for final Application for Payment.

1.8 WARRANTIES

- A. Provide duplicate notarized copies.
- B. Execute and assemble transferable warranty documents from Sub-contractors, suppliers, and manufacturers.
- C. Provide Table of Contents and assemble in three D-ring binder with durable plastic covers.
- D. Submit prior to final Application for Payment.
- E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

1.9 SPARE PARTS AND MAINTENANCE MATERIALS

- A. **Provide products, spare parts, maintenance and extra materials in quantities specified in individual Specification sections or as recommended by Manufacturer.**
- B. Deliver to owner and place in location as directed; obtain receipt prior to final payment.

2 PART 2 PRODUCTS

Not Used

3 PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 05500**METAL FABRICATIONS****1 PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Shop fabricated steel overhead door support framing shall be minimum 1 ½" x 1 ½" x 1/8" galvanized angle iron or Manufacturer's recommended material normally used in Heavy duty installations.

1.2 RELATED SECTIONS

- A. Section 08331 – Steel Roll-up Overhead Doors.

1.3 SUBMITTALS FOR REVIEW

- A. Shop Drawings: After confirming field measurements, show profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
- B. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.
- C. Provide structural calculations for framing support structure. Calculations shall be sealed by a Pennsylvania licensed Professional Engineer.

1.4 QUALIFICATIONS

- A. Prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Pennsylvania.
- B. Welders Certificates: Submit under provisions of Section 01300, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

2 PART 2 PRODUCTS**2.1 MATERIALS - STEEL**

- A. Steel Structural Members: ASTM A450.
- B. Steel Fasteners: ASTM F593.
- C. Welding Materials: AWS D1.1; type required for materials being welded.
- C. Threaded steel rods and epoxy system (fastener to meet ASTM A167)- Hilti or equal.

2.2 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds.
- D. Fabricate according to industry standards
- E. Using non-ferrous grinding materials, grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- F. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- G. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.3 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

3 PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

- A. Clean steel items with non-ferrous cleaning supplies where site welding is required.
- B. **Remove all existing doors and all other work that is in any way adversely affected by removal of the existing doors or installation of new doors. The intent is that the work areas and structures will be clear of obstructions and allow for the proper installation of the new doors and frame assemblies.**
- C. **Remove all existing work in its entirety including all existing accessories, including but not limited to doors, tracks, weatherproofing, motors, wiring, conduits, controls, fasteners, stiffeners, hangers, safety devices, water lines, and steam lines.**
- D. **Repair all existing surfaces to remain that have been left damaged by existing work that has been removed. Such damage includes but is not limited to holes in masonry, anchors, brackets and other appurtenances that are not considered part of the finished work.**
- E. **Repair all such surfaces so as to match exactly the existing dimension, material, type, finish, coursing, and attachment of the damaged surface.**

3.3 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Perform field welding in accordance with AWS D1.1.
- D. Obtain approval prior to site cutting or making adjustments not scheduled.
- E. After erection, prime welds, abrasions, and surfaces not galvanized.

3.4 ERECTION TOLERANCES

- A. Adhere to tolerances which allow the satisfactory installation and free operation of the roll up doors.

END OF SECTION

05500-3

SECTION 08331

STEEL OVERHEAD COIL-UP DOORS

1 PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Overhead coiling door, operating hardware, electric operation.
- B. Coordination of steel columns as specified in 05500.
- C. Wiring from electric circuit disconnect to door operator to control station.

1.2 REFERENCES

- A. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- B. NEMA ICS 2 - Standards for Industrial Control Devices, Controllers and Assemblies.
- C. NEMA MG1 - Motors and Generators.
- D. UL - Fire Resistance Directory.
- E. UL 325 - Door, Drapery, Gate, Louver, and Window Operators and Systems.

1.3 SYSTEM DESCRIPTION

- A. Electric motor operated Overhead Doors with manual over-ride in case of power or motor failure.

1.4 DESIGN REQUIREMENTS

- A. Design door assembly to withstand wind/suction load of 20 PSF (940 Pa), without excessive deflection or damage to door or assembly components.

1.5 SUBMITTALS FOR REVIEW

- A. Product Data: Provide general construction, component connections and details and electrical equipment.
- B. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details of both door and installer designed tubular supports.
- C. Samples: Submit two sample door slats, 12 inches long of each metal type and thickness to be used illustrating shape, color, and finish consistency.
- D. Submit document of origins and verification of steel types and content.
- E. Submit five (5) samples of each type of fastener to be used.
- F. Submit two (2) samples of wheel trucks.

1.6 SUBMITTALS FOR INFORMATION

- A. Manufacturer's Instructions: Indicate installation sequence and procedures, adjustment and alignment procedures, and post operation alignment check.

1.7 SUBMITTALS FOR CLOSEOUT

- A. Maintenance Data: Indicate lubrication requirements and frequency, periodic adjustments required, and other maintenance data.

1.8 REGULATORY REQUIREMENTS

- A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.
- B. Provide certificate of compliance from authority having jurisdiction indicating approval of door and operating hardware assembly.

2 PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers:
 - 1. Overhead Door Corporation Model 620.
 - 2. Approved equal

2.2 MATERIALS

- A. Curtain: conforming to the following:
 - 1. Slats: Interlocking, minimum 20 gage steel.
 - 2. Nominal Slat Size: 2 5/8" inches wide galvanized roll-formed steel slats designed to withstand 20 PSF wind load, by required length.
 - 3. Slat Ends: Alternate slats fitted with end locks to act as wearing surface in guides and to prevent lateral movement.
 - 4. Curtain Bottom Bar: Galvanized steel angles, minimum 1/8" thick, to provide reinforcement and positive contact with floor in closed position.
- B. Guides: Primed galvanized steel profile to retain door in place, mounting brackets of same metal.
- C. Square tubular steel supports - A36 galvanized steel painted to match existing anodized aluminum trim color.
- D. Roller Shaft Counterbalance: Steel pipe and helical steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension. Curtain shall be coiled on a pipe of sufficient size to carry door load with deflection not to exceed .03 inches per foot of door span and to be evenly balanced by

helical springs, oil tempered torsion type designed with a 25% safety factor. Cast iron barrel plugs will be used to anchor springs to tension shaft and pipe.

- E. Hood Enclosure and Fascia: 24 gage painted galvanized steel internally reinforced to maintain rigidity and shape. Hood shall be flanged at bottom to provide longitudinal stiffness. Hood will enclose curtain coil and counterbalance mechanism.
- F. Hardware:
 - 1. Lock Cylinders: as directed by owner.
 - 2. Weatherstripping: Door shall include bottom astragal, exterior surface guide weather-strip, and internal hood baffle weather-strip. Moisture and rot proof, neoprene or EPDM covered weather seal located at bottom of curtain.
 - 3. Provide chain keepers suitable for padlocks. Padlocks provided by SEPTA.

2.3 ELECTRIC OPERATOR

- A. Electric Operator:
 - 1. Description: UL 325, side mounted with oil-bath worm gear drive.
 - 2. Motor Enclosure: NEMA MG1 Type 1. Class F Insulation
 - 3. Motor Rating: 3/4 hp; continuous duty.
 - 4. Motor Voltage: 480 V Three phase, 60 Hz.
 - 5. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
 - 6. Controller Enclosure: NEMA 250 Type 1.
 - 7. Door Speed: 12 inches per second (300 mm/s)
 - 8. Brake: Adjustable friction clutch type, activated by motor controller.
 - 9. Over-ride: Manual chain hoist with disconnect.
- B. Control Station: Standard three button (OPEN-STOP-CLOSE) constant pressure control for each operator; 24 volt circuit; surface mounted.
- C. Safety Edge: Located at door bottom, full width, pneumatic or electro-mechanical sensitized type, wired to stop door upon striking object, hollow neoprene covered weather seal. Electrical wire connection shall be self retracting, concealed in the door control mechanism. Safety Edge stopping pressure shall be not more than 1.8 Kg.
- D. Electric Eye mounted on each side of door opening to prevent door from operating due to an obstruction.

2.4 FINISHES

- A. Curtain Slats: Galvanized steel or painted galvanized steel under provisions of Section 09900. Color to be selected from samples submitted
- B. Steel Guides: Primed galvanized steel
- C. Hood Enclosure and Support Posts: Painted galvanized steel – Color selected from samples submitted.

3 PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes, tolerances, available electrical supply and conditions are acceptable.

3.2 INSTALLATION

- A. Install door unit assembly in accordance with Manufacturer's instructions, including steel column supports (SEC. 05500).
- B. Obtain approval from owner to use anchorage devices to securely fasten support tubes to wall/ceiling construction and building framing without distortion or stress.
- C. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.
- D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- E. Complete wiring from load side of disconnect to unit components to door operator.
- F. Obtain approval from Project Manager for installation of sealants and backing materials at frame perimeter.
- G. Install perimeter trim and closures.
- H. **Install Bollards on interior and exterior of all new door openings (6" diameter x 7' long – schedule 40 black iron pipe, concrete filled. 36" in ground and 48" above ground.**

3.3 ERECTION TOLERANCES

- A. Maintain dimensional tolerances and alignment with adjacent work.
- B. Maximum Variation From Plumb: 1/16 inch (1.5 mm).
- C. Maximum Variation From Level: 1/16 inch (1.5 mm).
- D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 ft (3 mm per 3 m) straight edge.

3.4 ADJUSTING

- A. Adjust door, hardware and operating assemblies for smooth and noiseless operation.

3.5 CLEANING

- A. Clean door and components.
- B. Remove labels and visible markings.
- C. Leave work site in broom clean condition.

END OF SECTION

SPECIFICATION**FABRIC TYPE RAPID COILING**
ROLL-UP OVERHEAD DOOR**SECTION 08335****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes:
 - 1. Fabric type High Speed Coiling Overhead Service Doors
- B. Products furnished under this section:
 - 1. Supply: Masonry Anchors for coiling doors
 - 2. Furnish location drawings and installation instructions for placement of anchors
- C. Related Sections
 - Not Used

1.2 SYSTEM DESCRIPTION

- A. Performance Requirements
 - 1. Wind Loading: Provide door assemblies which have been designed and constructed to withstand the specified wind load pressure.

1.3 SUBMITTALS

- A. Shop Drawings: Furnish completely dimensioned and detailed drawings showing complete installation details with components, materials, finishes, and accessories identified.

B. Samples

1. Submit a twelve (12") inch square sample of specified fabric in selected color.

C. Quality Control Submittal

1. Qualification Statement: For information only, installer's written statement that installer complies with specified experience requirement.

D. Contract Closeout Submittal:

1. Manufacturer's standard operating instructions and maintenance data.

1.4 QUALITY ASSURANCE:

- A. Provide Manufacturer's high speed coiling door assembly, complete with operating accessories and installation hardware.
- B. Installer Qualifications: Manufacturer's authorized installer for the types of units specified.

1.5 SEQUENCING AND SCHEDULING

- A. Schedule and coordinate installation of anchors in masonry for support of high-speed coiling doors.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. Iron Castings: ASTM A 48
- B. Steel Tube: ASTM A 513
- C. Steel: ASTM A 446, structural quality, cold rolled steel sheets, Grade A
 1. galvanized Coating: ASTM A 525, G90 Coating

- D. Door Panel Fabric: Double-layer, seamless woven polyester Mono-filament impregnated and coated with polyvinylchloride. Fabric shall be capable of sustaining impacts up to 3,000 pounds per square inch, tensile strength of 1,500 pounds per inch lengthwise and a minimum of 2,200 pounds per inch crosswise.

2.2 MANUFACTURED UNITS:

A. Rapid Roll-up Service Door

1. Product / Manufacturer
 - a. "Fast-Seal, Model FS 1000"; Rytec Corporation
 - b. "Rapid Roll Doors, Model 670"; Albany International
 - c. Approved equal
2. Wind Resistance: 20 pounds per square foot.
3. Curtain:
 - a. Material: Double layer seamless woven polyester fabric impregnated & coated with PVC
 - b. Color: To be selected from Manufacturer's standard range of a minimum of 4 choices.
4. Bottom Beam: Material: Anodized extruded aluminum alloy 6063 with end bracket of 10 gauge zinc plated steel.
5. Safety Edge: EPDM rubber pneumatic safety edge that operates a pressure switch. Entire system enclosed in a weather-proof PVC impregnated cover of woven yellow polyester. On contact with a foreign object the door shall immediately reverse and rise to the full open position and remain there until delayed closing. Include overhead motion detector as an additional safety feature. Maximum activation pressure shall be not greater than 1.8 Kg and will immediately reverse the motion of the door.

6. Operator: Worm gear type with direct driven rotary cams (limit switches), slipping clutch between gear box and motor, thermal switch, and direct drive.
 - a. Door Speed: 32 inches per second opening and closing.
 - b. Furnish with clutch release for easy hand operation in case of electrical failure.
 - c. Motor Type: Open Drip Proof
 1. Horsepower rating: $\frac{3}{4}$ Horse Power
 2. Electric Service: 480 volt, 3 phase, 60 hertz
 3. Enclosure for controls: NEMA Type 4
 4. Insulation: Class F
7. Control station: Floor Loop Receiver
 - a. Enclosure: NEMA Type 4
8. Furnish the following Manufacturer's optional accessories:
 - a. Weatherstripping at door jambs and head
 - b. Loop detector controller
 - c. Overhead Motion Detector
 - d. Window Panels

2.3 COMPONENTS:

- A. Wind Locks: Galvanized iron castings, ASTM A 48, spaced 24 inches on center along each side of curtain.
- B. Bottom Bar:
 1. Bottom Bar, overhead coiling doors: 2 angles, minimum 1 $\frac{1}{2}$ inch by 1 $\frac{1}{2}$ inch by $\frac{1}{8}$ inch thick; match curtain material and finish.
 - a. Bottom Seal: Replaceable vinyl or neoprene gasket between bottom bar angles.

C. Curtain Guides (Doors)

1. Construct door guides from steel angles of a size and configuration necessary to support curtain loads.
2. Use minimum 3/16 inch thick galvanized steel sections, with slotted holes for installation tolerance.
3. Fasten angle to substrate with minimum 3/8 inch diameter bolts at 30 inches on center maximum.
4. Support coil mechanism from top of guide rails.
5. Curtain Stops: Furnish removable brackets at guide ends to prohibit curtain overrun.

D. Weatherstripping:

1. Vinyl, EPDM, or Neoprene strips
2. Provide 1/8 inch thick sheet weather protection fastened to coil hood.
3. Fasten 1/8 inch thick strip to exterior face of jamb guide.

E. Counter Balance mechanism

1. Counter Balance system: Internally mounted system employing an extension spring and a cable pulley mechanism with two permanently sealed, lubricated ball bearings. Include factory lubricated steel cables on alloy 319 die cast aluminum cable drums.
2. Provide lubricated bearings for operational parts.
3. Spring Barrel: Structural quality steel pipe, sized to support curtain and limit barrel deflection to 0.03 inch per span foot maximum, when curtain is fully loaded.
4. Spring Balance: Heat-strengthened steel helical torsion springs; sized to counterbalance curtain weight.
5. Counterbalance Shaft: Case hardened steel; designed to retain spring ends and resist torsional forces.

6. Brackets: Gray cast iron, ASTM A 48, or cold-rolled steel plate. Furnish with flared guide end for curtain.

F. Hood / Side Frames:

1. Enclose curtain coil and counterbalance mechanism with 12 & 14 gauge galvanized steel sheet metal hood / side frames.
2. Fabricate hood to align with side frames.
3. Return edges for stiffness
4. Close ends at surface-mounted installations
5. Intermediate support brackets: Furnish as required for deflection-free installation.
6. Material: Fabricate from type, thickness and finish indicated.

G. Electric Operators:

1. Complete assembly of capacity indicated , including electric motor controls, gear reduction unit, brake, wiring and accessories required for proper operation.
 - a. Emergency Manual Operation: Hand operated disconnect accessible from floor to engage manual operator.
 - b. Prohibit motor from starting when emergency manual operator is engaged.
2. Operator Type:
 - a. Wall or bracket mounted operator units consisting of electric motor, worm gear drive or chain gear drive and an emergency disconnect for manual operation.
 - b. Motor and Drive: Type and horse power rating indicated for each door type.
3. Electric Motors:
 - a. High starting torque, reversible, constant duty, Class F insulated, overload protected, sized to operate door between 2/3 feet per second and 1 foot per second.

- b. Coordinate motor electric service criteria with building electrical supply.
 - c. Electric Motors: Comply with NEMA MG 1, for the motor types indicated.
 - d. Motor Control Wiring Enclosure: Comply with NEMA ICS 6, for type indicated.
4. Control Station:
- a. Control Station Enclosure: Comply with NEMA ICS 6, for types indicated.
5. Automatic reversing Control:
- a. Continuous automatic safety switch of type indicated, located in flexible astragal at bottom rail; Comply with UL 325.
 - b. Curtain immediately stops downward travel and reverses direction to fully opened position, when switch contacts an obstruction.
 - c. Automatic Bottom bar: Pneumatically actuated, where indicated. Actuating pressure to be not more than 1.8 Kg.
 - d. Electric eye controller mounted on each side of frame at interior and exterior sides of frame opening.
 - e. Overhead mounted Motion Detector

2.4 FABRICATION

- A. Door Curtain:
 - 1. Seamless woven fabric, PVC impregnated and coated; designed to resist indicated wind loads.
- B. Shop / Factory Finishing: Clean and shop prime paint ferrous metal and galvanized materials using door manufacturer's standard rust inhibitive paint. Do not paint surfaces requiring lubrication. Provide baked enamel finish in manufacturer's standard color.

PART 3 - EXECUTION**3.1 EXAMINATION**

- A. Examine openings to receive high speed coiling doors.
- C. Correct substrate conditions which could prohibit proper installation or operation before starting installation work.

3.2 INSTALLATION

- A. Comply with Manufacturer's directions and approved submittal information.

3.3 ADJUSTING

- A. Test and adjust doors to operate easily and be weather sealed when closed.

3.4 CLEANING

- A. Clean door assembly surfaces, removing dust, dirt, and grease before final acceptance.
- C. Entire work area at each location shall be broom clean before final acceptance.

3.5 PROTECTION

- A. After installation and before final acceptance, protect door assembly surfaces from scratches, dents, and other damage.
- B. Replace parts damaged during construction before final acceptance.

3.6 CERTIFICATION / WARRANTIES / MANUALS

- A. Provide all certifications and warranties. Warranties shall be for one year from installation or Manufacturer's standard warranty if longer than one year.
- B. Provide signed certifications that all safety devices are operational and have been tested in the presence of the Project Manager.
- C. Provide six (6) sets of Operation, Parts, and Maintenance Manuals in three ring binders
- D. **Provide flammability test results for Rapid Roll-up Door Fabric.**

SECTION 09900

PAINTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation and field application of paints and coatings to structural support steel for Overhead Door Hardware.

1.2 REFERENCES

- A. ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
- B. NACE (National Association of Corrosion Engineers) - Industrial Maintenance Painting.
- C. NPCA (National Paint and Coatings Association) - Guide to U.S. Government Paint Specifications.
- D. SSPC (Steel Structures Painting Council) - Steel Structures Painting Manual.

1.3 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this Section.

1.4 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum five years documented experience.
- B. Applicator: Company specializing in performing the work of this section with minimum years documented experience.

1.5 REGULATORY REQUIREMENTS

- A. Conform to applicable code for flame and smoke rating requirements for finishes.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 01600.

- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- C. Container label to include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- D. Store paint materials at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F (7 degrees C) for interiors; 50 degrees F (10 degrees C) for exterior; unless required otherwise by manufacturer's instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers – Paint and Primer Sealers
 - 1. Glidden Company
 - 2. PPG Industries
 - 3. Sherwin-Williams Co.

2.2 MATERIALS

- A. Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating; good flow and brushing properties; capable of drying or curing free of streaks or sags.

- B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.3 FINISHES

- A. Refer to schedule part 3.6 at end of section for surface finish [and color] schedule.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Following Overhead Door removal prepare structural steel for painting using in combination, as required, the following SSPC cleaning methods:
 - 1. SP1 – Solvent Cleaning
 - 2. SP2 – Hand Tool Cleaning
 - 3. SP3 – Power Tool Cleaning
- B. Correct defects and clean surfaces, which affect work of this section. Remove existing coatings that exhibit loose surface defects.
- C. Painted Steel Surfaces: Sand and scrape to remove loose paint and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.

3.2 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

3.3 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry.

- C. Apply one coat primer and two coats enamel to uniform finish.
- D. Sand metal surfaces lightly between coats to achieve required finish.
- E. Use tack cloth just prior to applying next coat.
- F. Allow applied coat to dry before next coat is applied.

3.4 FIELD QUALITY CONTROL

- A. Field inspection to be performed under provisions of Section 01400.

3.5 CLEANING

- A. Clean work under provisions of 01700.
- B. Collect waste material, which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.6 SCHEDULE - SURFACES

- A. Steel
 - 1. One coat of alkyd primer where required.
 - a. Thoroughly clean and phosphatize metal before painting. Primer shall be alkyd enamel or water based alkyd primer, force cured. The Primer shall be capable of passing a 120 hour salt spray test in accordance with ASTM specification B117.
 - 2. Two coats of alkyd enamel, semi-gloss, of color selected from samples.
 - a. The two coat process shall be capable of passing a 250 hour salt spray test in accordance with ASTM specification D1735.
 - 3. Powder coat paint finish is acceptable

END OF SECTION